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P57672**REMARKS**

This Amendment is in response to the final Office action (Paper No. 20070322) mailed on 10 April 2007. Reexamination and reconsideration are respectfully requested.

Listing of The Claims

Pursuant to 37 CFR §121(c), the claim listing, including the text of the claims, will serve to replace all prior versions of the claims, in the application.

Status of The Claims

Claims 7 through 18 are pending in this application.

Amendment of The Claims

Claims 1 through 6 are cancelled. Claims 12 and 18 are amended.

Issues raised by Paper No. 20070322**I. Drawings**

Paper No. 20070322 required submission of drawings with Figures 6 through 8 labeled as *Prior Art* on grounds that "only that which is old is illustrated." Applicant has earlier petitioned from this requirement. "Old" is not a proper characteristic of "prior art" under any paragraph of 35 U.S.C. §102. Specifically, the requirement is improper; nothing in 35 U.S.C. §102 declares "that which is old" is "prior art." Withdrawal of this requirement is therefore respectfully requested.

II. Abstract Objection

On page 2, paragraph 4 of Paper No. 20070322, the Examiner stated that "the abstract of the disclosure is objected to because Applicant recites that 'micro-patterns preferably have a cross sectional area of 150 µm'. Paper No. 20070322 however, states that micrometers is not a proper unit

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of measure for designating area. Correction is required".

The Examiner's thorough examination is highly appreciated. That language of the specification is in fact a proper unit of measurement for designating area in the relevant art. More specifically, the use of "150 μm " in the abstract actually refers to a cross-sectional dimension, such as a width or a diameter, of the micro-patterns; the "area" is the product of the cross-sectional dimension and the length of the micro-pattern. The attention of the Examiner is invited to note that the claims define Applicant's micro-patterns as "continuous micro-patterns increasing exposed surface area of said implant" Consequently, the "area" is dependent upon the product of the cross-sectional dimension and length of the "continuous micro-pattern"; because the "length" of the "continuous micro-pattern" is a function of the dimensions of the diameter and length of the "core", the "length" of "the continuous micro-pattern" is numerically large and theoretically infinite, and thus, as is explained in Applicant's original specification, meaningless in practical significance for gauging the volume of bone induced between the threads. In accordance with customary mechanical engineering practice therefor, the "area" is gauged by the cross-sectional dimension, even though the units of measurement are expressed in linear units such as micrometers. Applicant's original specification actually reads, "[t]he micro-patterns preferably have a cross-sectional area of 150 μm ." Moreover, this is the precise language used throughout Applicant's parent WIPO application.

In accordance with the request of the Examiner however, the corresponding sentence in the abstract is amended to read:

" The micro-patterns preferably have a cross sectional dimension of 150 μm "

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P57672**II. Claim Rejections - 35 U.S.C. §112****II-1. Rejection of Claims 7-18 under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement.**

Claims 7-18 are rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement.

Regarding claims 7-18, on page 3, paragraph 5 on Paper No. 20070322, the Examiner stated that “the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Applicant has added new limitations to claims 7 and 13 directed to ‘inclined flanks of said thread.’ For the purpose of examination, as best understood based on Applicant’s original specification, Examiner will interpret said ‘flanks’ to be the same as the ‘thread inclines’ of claim 1”.

Respectfully, “flank” is an art recognized term well known to a person of ordinary skill in the art; in point of fact, “flank” is unique in its use in this art, and there is no other. The noun “flank” designates the straight sides that connect the crest which is prominent part of the thread, and the root which is the bottom of the thread, as expressly illustrated by the drawing in “The Basic Thread Terms” (<http://www.boltscience.com/pages/screw3.htm>). As admitted by the Examiner, the “inclined flanks of the threads” is an alternative term to refer to the “thread inclines” in claim 1 as well as in the original specification.

Paper No. 20070322 erroneously asserts that “the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant

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art that the inventors, at the time the application was filed, had possession of the claimed invention. Applicant's written specification, as demonstrated by the written Figures 1 through 4, clearly illustrated "flanks." Moreover, that "flanks" is an art recognized term as illustrated by Applicant's original Figures 1 through 4, is demonstrated its use in the drawings and detailed descriptions of such well known references as *Locking Thread Construction* by Horace D. Holmes, U.S. Patent No. 4,076,064 issued on the 28th of February 1978, and *Screw With Two Types Of Threads* by Pei-Hua Chen, U.S. Patent No. 7,163,366 on the 16th of January 2007. In excess of two hundred and seventy-five other recent U.S. Patent issues demonstrate comparable uses of the term "flank." Therefore, the evidence of record convincing establishes that inventors had possession of the claimed invention with "inclined flanks of the threads. Applicant notes with appreciation, the Examiner's accurate reading of the amended claims in conformance with the art recognized nomenclature illustrated by FIGS. 1-4, and respectfully requests the Examiner to withdraw this rejection of claims 7 through 18.

II-2. Rejection of Claims 12 and 18 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 12 and 18 are rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As previously explained herein, the units of measurement appearing in claims 12 and 18 are technically correct in the relevant art.

Regarding claims 12 and 18, on page 3, paragraph 6 on Paper No. 20070322, the Examiner stated that "each claim recites 'micro-patterns having cross sectional areas on an order of 150 µm.'

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Paper No. 20070322 states that micrometers is not a proper unit of measure for designating area."That language of the specification is in fact a proper unit of measurement for designating area in the relevant art. More specifically, the use of "150 μm " in the abstract actually refers to a cross-sectional dimension, such as a width or a diameter, of the micro-patterns; the "area" is the product of the cross-sectional dimension and the length of the micro-pattern. The attention of the Examiner is invited to note that the claims define Applicant's micro-patterns as "continuous micro-patterns increasing exposed surface area of said implant . . ." Consequently, the "area" is dependent upon the product of the cross-sectional dimension and length of the "continuous micro-pattern"; because the "length" of the "continuous micro-pattern" is a function of the dimensions of the diameter and length of the "core", the "length" of "the continuous micro-pattern" is numerically large and theoretically infinite, and thus, as is explained in Applicant's original specification, meaningless in practical significance for gauging the volume of bone induced between the threads. In accordance with customary mechanical engineering practice therefor, the "area" is gauged by the cross-sectional dimension, even though the units of measurement are expressed in linear units such as micrometers. Applicant's original specification actually reads, "[t]he micro-patterns preferably have a cross-sectional area of 150 μm ." Moreover, this is the precise language used throughout Applicant's parent WIPO application.

The "150 μm " in claims 12 and 18 refers to the cross-sectional dimension of the micro-patterns. Claims 12 and 18 are amended to recite that "micro-patterns having a cross-sectional dimension on an order of 150 μm ".

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PS7672**III. Claim Rejections - 35 U.S.C. §102**

Rejection of Claims 7-10 and 13-16 under 35 U.S.C. §102(b) as being anticipated by Hansson et al. (U.S. 5,588,838).

Claims 7-10 and 13-16 are rejected under 35 U.S.C. §102(b) as being anticipated by Hansson et al. (U.S. 5,588,838).

Regarding claims 7 and 13, on page 4, paragraph 8 of Paper No. 20070322, the Examiner stated that "Hansson discloses a helical implant with a core surrounded by helical threads (i.e. Figure 3), wherein the threads have continuous micro-patterns (i.e. 109) which increase the exposed surface of the implant".

According to MPEP §2131, in the Office:

"A claim is anticipated only if **each and every element** as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)."

Applicant respectfully, Hansson '838 fails to teach that the **inclined flanks** of the helical threads are formed with micro-patterns.

First, Applicant notes that there are no inclined flanks in any aspect of the embodiment as shown in FIG. 3 of Hansson '838 as cited by the Examiner. The circumferentially oriented beads 109 are directly formed on the outer surface of the upper portion 110; in more precise language, circumferentially oriented beads 109 are directly formed on the outer surface of the upper portion 110 of the core. See the cited passaged of Hansson '838, (column 3, lines 17-21), which states that:

"the conical outer surface of the upper portion 110 of the fixture 101

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has circumferentially oriented beads 109. The beads may have a height, spacing, and orientation similar to that of the microthreads 9 described in connection with FIGS. 1-2".

Therefore, the vertical sectional view of the upper portion 109 would show a plurality of spheres formed on the conically outer surface, as shown in the following Figure 1.

By definition in the art, the "flank" of a thread is the straight side that connects the crest which is prominent part of the thread, and the root which is the bottom of the thread. Comparing Figure 1 with the vertical sectional views of the helical implant as shown in FIGS. 1-4 of the present application demonstrates that Hansson '838 fails to either teach or suggest that the inclined flanks of the threads having continuous micro-patterns in claims 7 and 13.

Second, all of the claims rejected actually define, *inter alia*, a unitary structure with "a core surrounded by helical threads, and inclined flanks of said threads bearing continuous micro-patterns increasing exposed surface area of said implant." Even assuming *arguendo* that Hansson '838 illustrates "a core surrounded by helical threads", nowhere does Hannson '838 teach Applicant's "a core surrounded by helical threads, and inclined flanks of said threads bearing continuous micro-



Figure 1 Vertical sectional view of the upper portion 109 in FIG. 3 of Hansson '838.

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patterns increasing exposed surface area of said implant." Under the Examiner's interpretation of Hannson '838, both of the Applicant's "inclined flanks of said threads bearing continuous micro-patterns" and "inclined flanks of said threads bearing continuous micro-patterns increasing exposed surface area of said implant" are improperly characterized by Paper No. 20070322 as mere surplusage. This is expressly contrary to current Office policy. As was explained by the United States Court of Appeals for the Federal Circuit, language of the Applicant's claims may not be summarily ignored.¹ All constituent elements of Applicant's claims 7 through 10 and 13 through 16 must be demonstrated to actually exist in the art as of the time of Applicant's invention; substitution of the Examiner's paraphrase of Applicant's claim language² is inadequate under the *the invention* requirement for anticipation established by the U.S. Congress in the several paragraphs of 35 U.S.C. §102. Consequently, absent Applicant's structure of "inclined flanks of said threads bearing continuous micro-patterns" and "inclined flanks of said threads bearing continuous micro-patterns increasing exposed surface area of said implant", there is no demonstration of anticipation. Even assuming *arguendo* that the structure of Hannson '838 has some type of "helical threads", the features of that structure are no substitute for Applicant's structure defined by claim 7 and 13. ³

¹ *Leapfrog Enterprises, Inc. v. Fisher-Price, Inc. and Mattel, Inc.*, No. 06-1402, page 10 (CAFC 9th of May 2007).

² Pages 3, 4 and 5 of the Examiner's comments set forth in Paper No. 5 is a paraphrase of Applicant's claim 1; the Examiner's proposed combination does not actually use this language. As is noted in this paper, Claim 1 does not teach the relations between claim 1's constituent elements.

³ Claim 1.

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Under 35 U.S.C. §102, these differences⁴ illuminate the absence of anticipation. This rejection is therefore inadequate to support a finding of anticipation; its withdrawal is respectfully urged.

Third, an element of common sense must be attendant to all applications of the art to the "subject matter sought to be patented"⁵; consequently, these differences which were not recognized in the Examiner's comments, serve as convincing indicia of non-obviousness.

In view of the foregoing amendments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. If there are any questions, the examiner is asked to contact the applicant's attorney.

No fee is incurred by this Amendment. Should there be a deficiency in payment, or should other fees be incurred, the Commissioner is authorized to charge Deposit Account No. 02-4943 of Applicant's undersigned attorney in the amount of such fees.

Respectfully submitted,



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⁴ As was recently noted by the Court of Appeals, "a *signal* corresponding to a word is not the same as a *signal* corresponding to a letter." *Leapfrog Enterprises, Inc. v. Fisher-Price, Inc. and Mattel, Inc.*, No. 06-1402, page 5 (CAFC 9 May 2007).

⁵ *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, 2007 WL 1237837, at 12 (30 April 2007). In accord, *Leapfrog Enterprises, Inc. v. Fisher-Price, Inc. and Mattel, Inc.*, No. 06-1402, page 7 (CAFC 9 May 2007).

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